

# CALIFORNIA HIGH-SPEED TRAIN

Program Environmental Impact Report/Environmental Impact Statement

Los Angeles to San Diego via Inland Empire

## Cultural Resources Technical Evaluation

January 2004

*Prepared for:*

California High-Speed Rail Authority

U.S. Department of Transportation  
Federal Railroad Administration



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of Transportation  
**Federal Railroad  
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**Cultural Resources  
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*Prepared by:*

**HNTB**

in association with

**CH2MHILL**

**JANUARY 2004**

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## ACRONYMS

ACHP	Advisory Council on Historic Preservation
ARB	Air Reserve Base
Authority	California High-Speed Rail Authority
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CHRIS	California Historical Resources Information System
CNDDDB	California Natural Diversity Database
CRHR	California Register of Historical Resources
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
EPA	Environmental Protection Agency
FAA	Federal Aviation Administration
FHWA	Federal Highway Administration
FRA	Federal Railroad Administration
FTA	Federal Transit Administration
GIS	Geographic Information System
HABS	Historic American Building Survey
HAER	Historic American Engineering Record
HPDF	Historic Property Directory Files
HST	high-speed train
I-	Interstate
IC	Information Center
km/h	kilometers per hour
LOSSAN	rail corridor from Los Angeles to San Diego through Orange County
MOA	Memorandum of Agreement
mph	miles per hour
n.d.	no ascertainable date of publication
NAHC	Native American Heritage Commission

NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NRHP	National Register of Historic Places
NWI	National Wetlands Inventory Database
PMOA	Programmatic Memorandum of Agreement
PRC	Public Resources Code
RTP	Regional Transportation Plans
SHPO	State Historic Preservation Officer
SR	State Route
STIP	State Transportation Improvement Program
U.S.	United States
UP	Union Pacific
USACE	United States Army Corps of Engineers
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey

## 1.0 INTRODUCTION

The California High-Speed Rail Authority (Authority) was created by the Legislature in 1996 to develop a plan for the construction, operation, and financing of a statewide, intercity high-speed passenger train system.<sup>1</sup> After completing a number of initial studies over the past 6 years to assess the feasibility of a high-speed train system in California and to evaluate the potential ridership for a variety of alternative corridors and station areas, the Authority recommended the evaluation of a proposed high-speed train system as the logical next step in the development of transportation infrastructure in California. The Authority does not have responsibility for other intercity transportation systems or facilities, such as expanded highways, or improvements to airports or passenger rail or transit used for intercity trips.

The Authority adopted a Final Business Plan in June 2000, which reviewed the economic feasibility of a 1,127-kilometer-long (700-mile-long) high-speed train system. This system would be capable of speeds in excess of 321.8 kilometers per hour (200 miles per hour [mph]) on a dedicated, fully grade-separated track with state-of-the-art safety, signaling, and automated train control systems. The system described would connect and serve the major metropolitan areas of California, extending from Sacramento and the San Francisco Bay Area, through the Central Valley, to Los Angeles and San Diego. The high-speed train system is projected to carry a minimum of 42 million passengers annually (32 million intercity trips and 10 million commuter trips) by the year 2020.

Following the adoption of the Business Plan, the appropriate next step for the Authority to take in the pursuit of a high-speed train system is to satisfy the environmental review process required by federal and state laws, which in turn will enable public agencies to select and approve a high-speed rail system, define mitigation strategies, obtain necessary approvals, and obtain financial assistance necessary to implement a high-speed rail system. For example, the Federal Railroad Administration (FRA) may be requested by the Authority to issue a Rule of Particular Applicability, which establishes safety standards for the high-speed train system for speeds over 200 mph and for the potential shared use of rail corridors.

The Authority is the project sponsor and the lead agency for purposes of the California Environmental Quality Act (CEQA) requirements. The Authority has determined that a Program Environmental Impact Report (EIR) is the appropriate CEQA document for the project at this conceptual stage of planning and decisionmaking, which would include selecting a preferred corridor and station locations for future right-of-way preservation and identifying potential phasing options. No permits are being sought for this phase of environmental review. Later stages of project development would include project-specific detailed environmental documents to assess the impacts of the alternative alignments and stations in those segments of the system that are ready for implementation.

The decisions of federal agencies, particularly the FRA related to high-speed train systems, would constitute major federal actions regarding environmental review under the National Environmental Policy Act (NEPA). NEPA requires federal agencies to prepare an environmental impact statement (EIS) if the proposed action has the potential to cause significant environmental impacts. The proposed action in California warrants the preparation of a Tier 1 Program-level EIS under NEPA, due to the nature and scope of the comprehensive high-speed train system proposed by the Authority, the need to narrow the range of alternatives, and the need to protect/preserve right-of-way in the future. FRA is the federal lead agency for the preparation of the Program EIS, and the Federal Highway Administration (FHWA), the United States (U.S.) Environmental Protection Agency (EPA), the U.S. Army Corps of Engineers (USACE), the Federal Aviation Administration (FAA), the U.S. Fish and Wildlife Service (USFWS), and the Federal Transit Administration (FTA) are cooperating federal agencies for the EIS.

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<sup>1</sup> Chapter 796 of the Statutes of 1996; SB 1420, Kopp and Costa

A combined Program EIR/EIS is to be prepared under the supervision and direction of the FRA and the Authority in conjunction with the federal cooperating agencies. It is intended that other federal, state, regional, and local agencies will use the Program EIR/EIS in reviewing the proposed program and developing feasible and practicable programmatic mitigation strategies and analysis expectations for the Tier 2 detailed environmental review process that would be expected to follow any approval of a high-speed train system.

The statewide high-speed train system has been divided into five regions for study: Bay Area-Merced, Sacramento-Bakersfield, Bakersfield-Los Angeles, Los Angeles-San Diego via the Inland Empire, and Los Angeles-Orange County-San Diego. This discipline-specific *Cultural Resources Technical Evaluation* for the Los Angeles to San Diego via the Inland Empire region is one of five such reports being prepared for each of the regions on the topic. It is 1 of 11 technical evaluations for this region. This evaluation will be summarized in the Program EIR/EIS, and it will be part of the administrative record supporting the environmental review of alternatives.

## 1.1 ALTERNATIVES

### 1.1.1 No-Project Alternative

The No-Project Alternative serves as the baseline for the comparison of Modal and High-Speed Train Alternatives. The No-Project Alternative represents the state's transportation system (highway, air, and conventional rail) as it existed in 1999-2000, and as it would be after implementation of programs or projects currently programmed for implementation and projects that are expected to be funded by 2020 (Figure 1.1-1). The No-Project Alternative addresses the geographic area serving the same intercity travel market as the proposed high-speed train (generally from Sacramento and the San Francisco Bay Area, through the Central Valley, to Los Angeles and San Diego). The No-Project Alternative satisfies the statutory requirements under CEQA and NEPA for an alternative that does not include any new action or project beyond what is already committed.

The No-Project Alternative defines the existing and future statewide intercity transportation system based on programmed and funded (already in funded programs/financially constrained plans) improvements to the intercity transportation system through 2020, according to the following sources of information:

- State Transportation Improvement Program (STIP)
- Regional Transportation Plans (RTPs) for all modes of travel
- Airport plans
- Intercity passenger rail plans (California Rail Plan 2001-2010, Amtrak 5- and 20-Year Plans)

As with all of the alternatives, the No-Project Alternative will be assessed against the purpose and need topics/objectives for congestion, safety, air pollution, reliability, and travel times.

### 1.1.2 Modal Alternative

There are currently three main options for intercity travel between the major urban areas of San Diego, Los Angeles, the Central Valley, San Jose, Oakland/San Francisco, and Sacramento: vehicles on the interstate highway system and state highways, commercial airlines serving airports between San Diego and Sacramento and the Bay Area, and conventional passenger trains (Amtrak) on freight and/or commuter rail tracks. The Modal Alternative consists of expansion of highways, airports, and intercity and commuter rail systems serving the markets identified for the High-Speed Train Alternative (Figures 1.1-2 and 1.1-3). The Modal Alternative uses the same intercity travel demand (not capacity) assumed under the high-end sensitivity analysis completed for the high-speed train ridership in 2020. This same travel demand is assigned to the highways, airports, and passenger rail described under the No-Project Alternative.



**Figure 1.1-1 No-Project Alternative – California Transportation System**



Figure 1.1-2 Modal Alternative – Highway Component

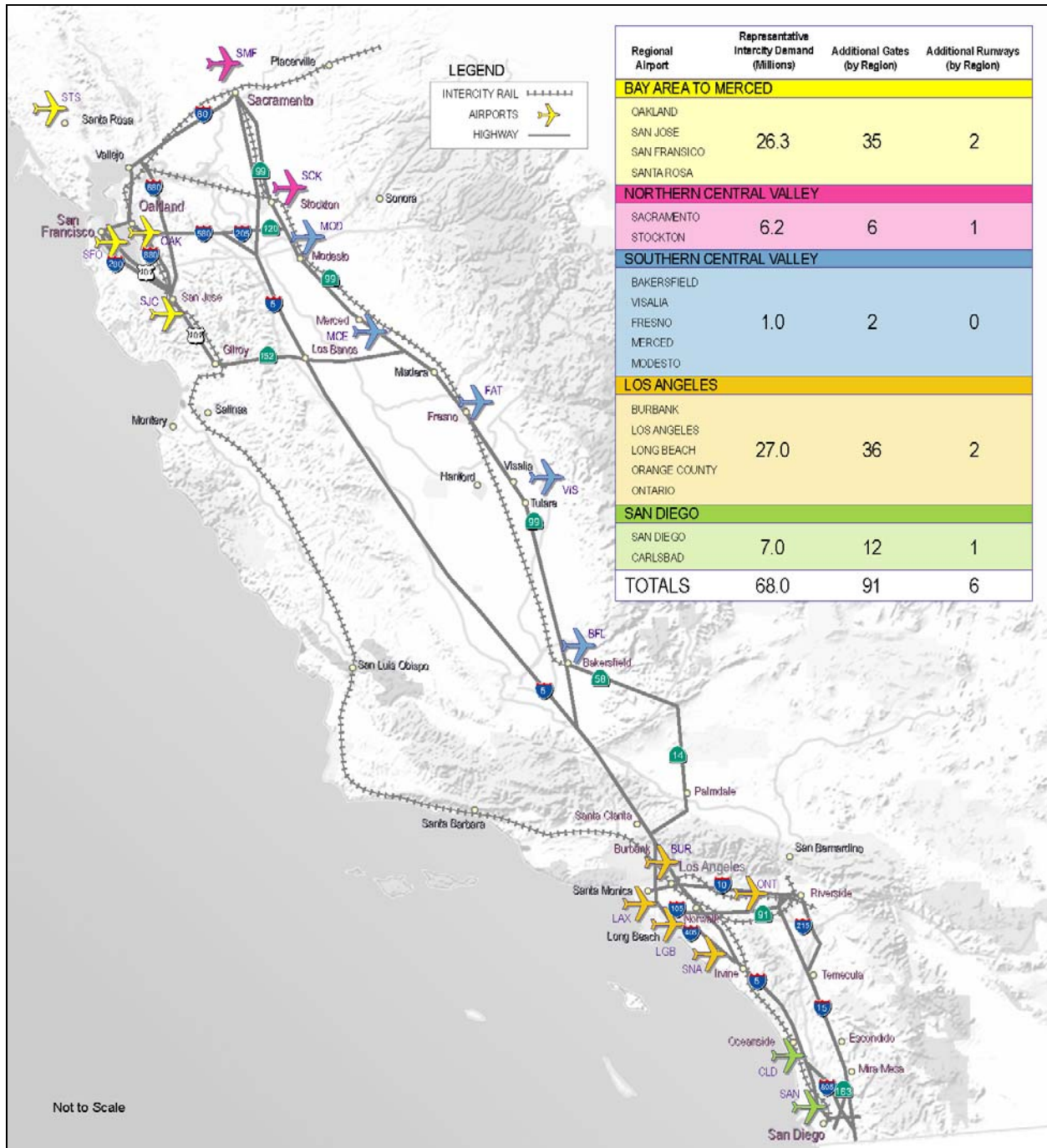


Figure 1.1-3 Modal Alternative – Aviation Component

The additional improvements or expansion of facilities are assumed to meet the demand, regardless of funding potential and without high-speed train service as part of the system.

The Modal Alternative for the Los Angeles to San Diego via the Inland Empire region consists of two major proposed improvements:

- **Improvements to Highways:** Consisting of additional highway lanes to provide sufficient highway capacity and associated interchange reconfiguration, crossing bridge widening, ramp widening, cross street and intersection widening (Figure 1.1-2). Within the study area corridor, these improvements, therefore, would occur along proposed portions of Interstates (I-) 10, 215, 15, and State Route (SR) 163. Table 1.1-1 lists the proposed highway improvements along the Los Angeles to San Diego via the Inland Empire corridor.

**Table 1.1-1 Proposed Modal Alternative Highway Improvements  
Los Angeles to San Diego via the Inland Empire**

Highway Corridor	Segment (From – To)	No. of Additional Lanes <sup>1</sup> (Total – Both Directions)	No. Of Existing Lanes (Total – Both Directions)	Type of Improvement
I-10	I-5 to East San Gabriel Valley	2	10	widening
I-10	East San Gabriel Airport to Ontario Airport	2	8	widening
I-10	Ontario Airport to I-15	2	8	widening
I-10	I-15 to I-215	2	8	widening
I-15	I-10-I-215	2	8	widening
I-215	Riverside to I-15	2	4	widening
I-215	I-10 to Riverside	2	6	widening
I-15	I-215 to Temecula	2	10	widening
I-15	Temecula to Escondido	2	8	widening
I-15	Escondido to Mira Mesa	2	10	widening
I-15	Mira Mesa to SR-163	2	10	widening
SR-163	I-15 to I-8	2	8	widening

<sup>1</sup> Represents the number of through lanes in addition to the total number of existing lanes that approximate an equivalent level of capacity to serve the representative demand

- **Improvements to Airports:** Primarily consisting of improvements to terminal gates and runways to provide sufficient landside and airside capacity and associated taxiways, ground access, parking, terminal and support facilities and airports that can serve the same geographic area and demand as the proposed High-Speed Train (HST) Alternative. Within the study area corridor, these proposed improvements would occur at Ontario International Airport (ONT) and the San Diego International Airport (SAN) (Figure 1.1-3). Table 1.1-2 lists the airport improvements associated with the Ontario and San Diego airports.

**Table 1.1-2 Proposed Modal Alternative Airport Improvements – Year 2020  
Los Angeles to San Diego via the Inland Empire**

Airport Name	Additional Gates	Additional runways
Ontario International Airport	8	1
San Diego International Airport	12	1

Source: Parsons Brinckerhoff, November 2002

### 1.1.3 High-Speed Train Alternative

The Authority has defined a statewide high-speed train system capable of speeds in excess of 200 miles per hour (mph) (320 kilometers per hour [km/h]) on dedicated, fully grade-separated tracks, with state-of-the-art safety, signaling, and automated train control systems. State-of-the-art, high-speed, steel-wheel-on-steel-rail technology is being considered for the system that would serve the major metropolitan centers of California, extending from Sacramento and the San Francisco Bay Area, through the Central Valley, to Los Angeles and San Diego (Figure 1.1-4).

The High-Speed Train Alternative includes several corridor and station options. A steel-wheel-on-steel-rail, electrified train, primarily on exclusive right-of-way with small portions of the route on shared track with other rail is planned. Conventional “nonelectric” improvements are also being considered along the existing rail corridor from Los Angeles to San Diego through Orange County (LOSSAN). The train track would be at grade, in an open trench or tunnel, or on an elevated guideway, depending on terrain and physical constraints.

For purposes of comparative analysis the high-speed train corridors will be described from station to station within each region, except where a bypass option is considered when the point of departure from the corridor will define the end of the corridor segment.

As described in the introduction, the study area is broadly defined by the Los Angeles to San Diego via Inland Empire corridor segment, which may be broadly divided into three regional segments. Each segment has several alternative alignments for all or a portion of the length of the segment. For example, Segment 1 has three alternative alignments, listed as 1A, 1B, and 1C. Each segment is further subdivided into subsegments for analyzing and reporting potential impacts. The various segment options and subsegments, along with station locations, are described below and shown in Figure 1.1-5.

#### 1.1.3.1 Regional Segment 1 – Union Station to March Air Reserve Base Segment

##### Segment 1A

Subsegment 1A1: Union Station to Pomona

Subsegment 1A2: Pomona to Ontario (beginning of Segment 1C)

Subsegment 1A3: Ontario (beginning of Segment 1C) to Colton (end of Segment 1C)

Subsegment 1A4: Colton to March Air Reserve Base (ARB)

##### Segment 1B

Subsegment 1B1: Union Station to Pomona

##### Segment 1C

Subsegment 1C1: Ontario (beginning of Segment 1C) to Colton (end of Segment 1C)

Station Locations: El Monte (1A1), Pomona (1A2), Ontario (1A2), Colton (1A3), University of California at Riverside (1A4), South El Monte (1B1), City of Industry (1B1), and San Bernardino (1C1)

#### 1.1.3.2 Regional Segment 2 – March ARB to Mira Mesa Segment

##### Segment 2A

Subsegment 2A1: March ARB to Escondido (beginning of Segment 2B)

Subsegment 2A2: Within Escondido (beginning to end of Segment 2B)

Subsegment 2A3: Escondido to Mira Mesa



**Figure 1.1-4 High-Speed Train Alternative –  
Corridors and Stations for Continued Investigation**



Figure 1.1-5 Modal and High-Speed Train Alternatives  
Los Angeles to San Diego via Inland Empire

### Segment 2B

Subsegment 2B1: Within Escondido (Beginning to end of Segment 2B)

Station Locations: March ARB (2A1), Temecula (2A2), Escondido (2A2), and Escondido Transit Center(2B1)

### **1.1.3.3 Regional Segment 3 – Mira Mesa to San Diego Segment**

#### Segment 3A

Subsegment 3A1: Mira Mesa to Qualcomm Stadium

#### Segment 3B

Subsegment 3B1: Within Mira Mesa (beginning and end of Segment 3C)

Subsegment 3B2: Mira Mesa (end of Segment 3C) to Downtown San Diego

#### Segment 3C

Subsegment 3C1: Within Mira Mesa (end of Segment 3C)

Station Locations: Mira Mesa (3A1), Qualcomm Stadium (3A1), Transit Center (3B2), San Diego International Airport (3B2), and Downtown San Diego (3B2).

## **2.0 BASELINE/AFFECTED ENVIRONMENT**

### **2.1 STUDY AREA**

The study area for cultural resources was defined in consultation with the SHPO. At this programmatic Tier 1 level of analysis, the study area in which information about the locations of archeological sites was obtained from the Information Centers of the California Historical Resources Information System (CHRIS). No study area was defined for structures from the historical period because individual structures from the historical period were not identified during this programmatic Tier 1 level of analysis.

The study area for this undertaking is defined as 500 feet on each side of the centerline of proposed rail routes in nonurban areas and 100 feet from the centerline in urban areas. The study area for freeway routes and around airports is defined as 100 feet beyond the existing freeway right-of-way and 100 feet beyond the existing airport property boundary. The reason for using 100 feet for urban rail corridors, freeways, and airports is that very little additional right-of-way would be affected in these areas. The 500 feet on each side of the railroad centerline in nonurban areas provides information on wider corridors where additional right-of-way could be affected.

Locations of easements and construction-related facilities, such as equipment staging areas, borrow and disposal areas, access roads, and utilities, have not yet been identified. Locations for these will be identified as part of the construction design program for the alternatives selected for more detailed analysis in the next phase of the project. Thus, these items are not considered in the program level Tier 1 analysis, but this information will be available for Tier 2 site-specific EIR/EISs. The study area will be modified to include these items as part of the Tier 2 analysis.

### **2.2 BRIEF CULTURAL BACKGROUND OF REGION**

Prehistoric occupation of the Los Angeles to San Diego via Inland Empire Region extends back at least 12,000 years before the present and has provided archeologists with evidence of a long and rich

prehistory. The earliest inhabitants are little known archeologically, but it is assumed they were hunter-gatherers who entered the region prior to 9000 B.C. The early Holocene cultures are better known with the material record reflecting fishing, intensive shellfish collecting, and some hunting by nomadic or possibly semisedentary groups. The Encinitas Tradition either developed locally or could be attributed to westward migrating desert peoples; it brought millingstone elements into the region. The rapid spread of millingstone technology (with or without population movement) may have been triggered by the onset of altithermal climatic conditions and resultant biotic changes (in the mid-Holocene). Even with hard-seed processing beginning in the Milling Stone Tradition, hunting, fowling, fishing, and other subsistence activities continued to be practiced.

After about 3000 B.C., coastal cultures became increasingly diversified and economically specialized. In the San Diego region, the La Jolla Complex persisted as a distinctive expression of the Encinitas Tradition. Between northern San Diego County and Chumash territory (Ventura/Santa Barbara area), there is poorly dated evidence of a "Shoshonean" movement from the interior to the coast. Inland sites seem to be related to those of the deserts farther east. Shoshonean Tradition elements found archeologically in Riverside and San Bernardino vicinities include cremation of the dead, pottery, and small triangular projectile points. In inland San Diego County this tradition is represented by the San Luis Rey I and II phases (assignable to the forebears of the Luiseño). Farther south, the Cuyamaca Phase is connected to the protohistoric Diegueño and represents the Yuman Tradition (blend of Colorado River traits with older Encinitas Tradition).

In the 18th century, the Los Angeles to San Diego via Inland Empire Region was occupied by speakers of Chumashan, Serran, Cupan, and Diegueño languages. Spanish missions established in this region, beginning with San Diego de Alcalá in 1769, devastated Indian populations and cultures; as a result, many Indian lifeways vanished rapidly and without historical documentation. Referred to by the Spanish by various names, the Indians of the region are commonly referred to as Gabrieleño, Cahuilla, Luiseño, Ipai and Tipai. Peoples of this region were distinguished from other Native Californians by their social complexity, art styles, economic practices, and technology. The Gabrieleño occupied the coast in what is today the Los Angeles and Orange County area; this group was second only to the Chumash as the wealthiest, most populous and most powerful ethnic group in Southern California. Farther down the coast were the Luiseño (including people formerly called Juaneño) who moved seasonally between mountains and seashore camps to hunt land and sea mammals, collect intertidal species and harvest acorns and hard seeds. Between Luiseño territory and northern Baja California were seminomadic bands of Diegueño who followed a seasonal round to exploit wild plants, fish, small game, and occasionally deer or mountain sheep.

The coming of the Spanish missionaries, the control of the region by Spain and then Mexico, and the American takeover in 1848 are well known chapters in Southern California history. After the American takeover and the breakup of Mexican period ranchos, a steady influx of Euro-Americans migrating west filled the region with ranchers, farmers, and others who sought employment in the small towns that stretched from old San Diego to Los Angeles and inland to Riverside and San Bernardino. Patterns of American development commonly seen in other parts of California took place in this region. Small towns grew into cities as their economic base diversified in the later decades of the 19th and early- to mid-decades of the 20th century. Improved transportation (railroads and later automobiles/trucks) facilitated more rapid settlement of the region and integration of Southern California's small towns and rural agricultural areas into a thriving economy. The region received significant growth stimulus from increased military-related industrial development in the early to mid-20th century. Favorable climate, economic opportunity and other factors that made Southern California attractive spurred further growth in the decades following World War II. The region is now home to a diversified economic base consisting of the entertainment industry, light manufacturing, military home basing and training, aerospace manufacturing, and recently in the Inland Empire—growing retirement communities of northern San Diego and Riverside Counties.

As explained later in greater detail, the historical periods used in the impacts analysis are divided into three categories: before 1900, 1900 to 1929, and 1930 to 1958. Using historic maps and taking

well-known patterns of historical development in the region, potential impacts to the historic-built environment were assessed in reference to these divisions of the historic period. Prior to 1900, the region was primarily rural-agricultural with only a few cities of any size (Los Angeles and San Diego) and a number of small towns dispersed throughout the region, mostly linked by railroads. Between 1900 and 1929, the region grew quickly, aided in part by a well-developed interurban rail system and widely affordable automobiles and improved road networks linking communities together. From 1930 to 1958, the region suffered through the Depression, World War II and later emerged as a magnet for post-War immigration with its favorable climate, rapidly expanding Cold War defense industries, and growing music and film-making studios and related industries.

## 2.3 DATA SOURCES

Four primary data sources were used to gather cultural resource information: (1) South Central Coastal Information Center, CHRIS, California State University Fullerton (for Los Angeles County); (2) San Bernardino Archeological Information Center (CHRIS), San Bernardino County Museum, Redlands (for San Bernardino County); (3) Eastern Information Center (CHRIS), University of California, Riverside (for Riverside County); and (4) South Coastal Information Center (CHRIS), San Diego State University (for San Diego County).

Each CHRIS office was asked to provide the following information.

- NRHP and CRHP listings (if any NRHP or CRHP properties are present and copies of all pertinent inventory/nomination/registration forms)
- "Determined eligible" listings for the NRHP or CRHP, copies of pertinent forms as appropriate
- All other state and local listings for the presence of historic buildings, structures, landmarks, points of historical interest, or other cultural resources; copies of pertinent forms/documents as appropriate (Historic Property Directory Files [HPDF] records)
- Known/recorded archeological sites (historic and/or prehistoric), copies of inventory forms/Primary Record Forms as appropriate
- Bibliography of all reports, surveys, excavations, inventories, and studies within the search areas marked on the quadrangle map; copies of all such reports as appropriate
- Annotate and return maps showing locations of known/recorded/registered cultural resource sites (archeological sites, NRHP, or CRHP historic properties) and mapped polygons for previously conducted surveys, inventories, and other studies

A letter describing the project was sent to the Native American Heritage Commission (NAHC) in Sacramento. The letter provided project location information and requested a search of the Sacred Lands File to identify any traditional cultural properties that potentially could be affected by the project. In addition, lists of Native Americans to contact for the areas that could be affected by the project were requested. Letters were sent to the Native Americans on the contact lists provided by the NAHC. The letters provided information about the project and requested information about traditional cultural properties that the Native Americans believe could be affected by the project.

## 2.4 ARCHEOLOGICAL SITES

Prehistoric archeological sites in California are places where Native Americans lived or carried out activities during the prehistoric period before 1769 A.D. Prehistoric sites contain artifacts and subsistence remains and may contain human burials. Artifacts are objects made by people and include tools (projectile points, scrapers, and grinding implements, for example), waste products from making flaked stone tools (debitage), and nonutilitarian artifacts (beads, ornaments, ceremonial items, and rock art).

Subsistence remains include the nonedible portions of foods, such as animal bone and shell, and edible parts that were lost and not consumed, such as charred seeds.

Historical archeological sites in California are places where human activities were carried out during the historical period between and A.D. 1769 and 50 years ago. Some of these sites may be the result of Native American activities during the historical period, but most are the result of Spanish, Mexican, or Anglo-American activities. Most historical archeological sites are places where houses formerly existed and contain ceramic, metal, and glass refuse resulting from the transport, preparation, and consumption of food. Such sites also can contain house foundations and structural remnants, such as window pane glass, lumber, and nails. Historical archeological sites can be nonresidential, resulting from ranching, farming, industrial, and other activities. The records search revealed that there are many known/recorded prehistoric and historical archeological sites (Table 2.4-1).

**Table 2.4-1 Archeological Sites in the Los Angeles to San Diego via Inland Empire Region**

Source	Prehistoric Archeological Sites	Historical Archeological Sites
<b>TOTAL for Region (241)</b>	130	101
South Central Coastal Information Center (IC) CHRIS (Los Angeles County)	4	8
San Bernardino Archeological IC CHRIS (SB County)	2	48
Eastern IC CHRIS (Riverside County)	44	18
South Coastal IC CHRIS (San Diego County)	80	27

The 241 archeological sites in this region reflect the full range of cultures and periods, from chronologically ancient prehistoric Native American to historic European (Spanish/Mexican) settlements to historic Euro-American settlement and more recent time periods through World War II urban and industrial growth.

## 2.5 STRUCTURES FROM THE HISTORIC PERIOD

The historic-built environment consists of structures from the historic period comprising houses, outbuildings, stores, offices, factories, barns, corrals, mines, dams, bridges, roads, and other facilities that served, residential, commercial, industrial, agricultural, transportation, and other functions more than 50 years ago.

The historic-built environment of the Los Angeles to San Diego via Inland Empire Region was divided into three historical periods (before 1900, 1900 to 1929, and 1930 to 1958). Prior to 1900, the region was characterized by broadly dispersed agricultural settlement and small towns that supported the agricultural economy of the region. Older established settlements such as Los Angeles, Riverside, San Bernardino, and San Diego already had evolved into cities with more diversified economies. While roads were growing in importance, most transportation in the region was served by railroads and trolley/interurban streetcar systems (at first, horse-drawn, and later, electric-powered streetcars). The central cities and the central blocks of the smaller outlying towns had developed commercial/industrial buildings and the central cities were “ringed” with more residential land uses. Prior to 1900, small towns had developed small-scale residential neighborhoods surrounding their central blocks. In the rural areas of the region, the historic-built environment prior to 1900 consisted mostly of farm/ranch homes and related outbuildings, small bridges, dirt roads, and railroads and railroad-related terminals and warehouses. The small towns consisted mostly of residential and commercial buildings and better-established roads. Railroad stations in these smaller towns often served as the commercial hub for the surrounding areas.

The historic-built environment between 1900 and 1929 changed markedly with the advent of the automobile age. Not only did the region experience population growth, but major improved road networks were constructed to accommodate increased numbers of automobiles and trucks. Special structures appear in the built environment including gas stations, parking garages, and auto/truck sales

and repair/maintenance facilities. Urbanized areas continued to grow and use of street cars and interurban passenger rail services peaked at this time. In the post World War I years, Southern California experienced growth in military bases and training facilities. Important industrial facilities expanded in the Riverside and San Bernardino vicinities with Kaiser steelworks in Fontana being a notable example.

The period between 1930 and 1958 witnessed slow growth (Depression) followed by the World War II era and immediate "Post-War" period of rapid urban and suburban expansion. The Depression era continued to witness residential growth in the cities and towns as well as in the agricultural areas as waves of Dust Bowl immigrants flooded into Southern California to find jobs and new opportunities to resume farming in areas not affected by Dust Bowl conditions. While largely removed from the modern landscape, Depression era shantytowns sprang up as elements of the built environment. In the years leading up to World War II and during the war years, military bases greatly expanded and several outlying communities grew almost overnight in response to the placement of new Army Air Force airfields and training bases that were set up. In the Post World War II years, the characteristic "rings" of suburban expansion resulted in the de facto merging of smaller towns and cities into what is now characteristic Southern California urban sprawl.

## 2.6 TRADITIONAL CULTURAL PROPERTIES

Traditional cultural properties are places associated with the cultural practices or beliefs of a living community that are rooted in that community's history and are important in maintaining the continuing cultural identity of the community. Examples include "a location associated with the traditional beliefs of a Native American group about its origins, its cultural history, or the nature of the world" and "a location where Native American religious practitioners historically have gone, and are known or thought to go today, to perform ceremonial activities in accordance with traditional cultural rules of practice" (National Park Service, n.d.). Traditional cultural properties are identified by consulting with Native American groups that have a history of use of the project area.

The Native American Heritage Commission did not identify any traditional cultural properties that could be affected by the project in this region. Native Americans contacted by letter did not identify traditional cultural properties that could be affected by the project in this region.

### 3.0 METHODS FOR CULTURAL RESOURCES ANALYSIS

The cultural resources analysis for this program-level EIR/EIS is focused on a broad comparison of potential impacts to cultural resources along segments for each of the alternatives (Modal and High-Speed Train Alternatives) and around stations. The potential impacts for each of these alternatives are compared with the No-Project Alternative.

#### 3.1 DATA COLLECTION

The study area for archeological sites was defined as 500 feet on each side of the centerline of proposed rail routes in nonurban areas and 100 feet from the centerline in urban areas. The study area for freeway routes and around airports was defined as 100 feet beyond the existing freeway right-of-way and 100 feet beyond the existing airport property boundary.

Records searches were obtained from the appropriate Information Center (IC) of the CHRIS. The records searches provided the locations of archeological sites within the study area. The number of archeological sites within the study area for each alternative was compared to assess the relative degree of potential impacts or effects for each alternative. To assess impacts to structures from the historic period, the percentage, based on miles, of each alternative route that passes through areas that originally developed in specific, predefined historical periods (before 1900, 1900 to 1929, and 1930 to 1958) was determined by using historical maps and knowledge of local history.

#### 3.2 CEQA AND NHPA SIGNIFICANCE CRITERIA FOR CULTURAL RESOURCES

Under state and federal guidelines for cultural resources, impacts are potentially significant only if the resource with the impact has been determined to be significant. Under federal guidelines (36 CFR 800.4) implementing Section 106 of the NHPA, significant cultural resources are those that are eligible for the National Register of Historic Places (NRHP). The NRHP eligibility criteria (36 CFR 60.4) state that the quality of significance in American history, architecture, archeology, and culture is present in districts, sites, buildings, structures, and objects of state and local importance that possess integrity of location, design, setting, materials, workmanship, feeling, association, and:

- That are associated with events that have made a significant contribution to the broad patterns of our history
- That are associated with the lives of persons significant in our past
- That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction
- That have yielded, or may be likely to yield, information important to prehistory or history

In addition, the cultural resource must be over 50 years old unless it is exceptionally important.

In CEQA, significant cultural resources are called "Historical Resources." Historical resources are resources that are eligible for listing in the CRHR or that are listed in the historical register of a local jurisdiction (county or city). Generally, a resource shall be considered by a lead agency to be "historically significant" if the resource has integrity and meets the criteria for listing in CRHR, as follows (Title 14, California Code of Regulations [CCR] Section 15064.5(a)(3)):

- Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage
- Is associated with the lives of persons important in our past

- Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values
- Has yielded, or may be likely to yield, information important in prehistory or history

As can be seen, the NRHP and CRHR criteria are almost identical. Any resource determined eligible for the NRHP is also automatically eligible for the CRHR. However, the CEQA definition of an Historical Resource also includes resources listed on local historical registers.

CEQA also contains a section addressing “unique” archeological resources and provides a definition of such resources (Public Resources Code [PRC] Section 21083.2). This section establishes limitations on the cost of mitigation and prohibits imposition of mitigation measures for impacts to archeological resources that are not unique. However, CEQA guidelines state that the limitations in this section do not apply when an archeological resource already has met the definition of a Historical Resource (14 CCR 15064.5(c)(2)).

Impacts to NRHP-eligible resources are adverse “when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the *National Register* in a manner that would diminish the integrity of the property’s location, design, setting, materials, workmanship, feeling, or association” (36 Code of Federal Regulations [CFR] 800.5(1)). Examples of adverse effects include physical destruction or damage to all or part of the property; alteration that is not consistent with the Secretary of the Interior’s standards for the treatment of historic properties; removal of the property from its historic location; change in the type of use or of the physical characteristics of the setting; introduction of visual, atmospheric, or audible elements that diminish the integrity of the property’s significant historic features; and neglect resulting in deterioration (36 CFR 800.5(2)). Note that historic properties include prehistoric archeological sites. Archeological sites are usually adversely affected only by physical destruction or damage, whereas all of the examples can apply to historic buildings and structures.

Impacts to CRHR-eligible resources, or resources listed on local registers, constitute a significant effect on the environment (significant impacts that must be disclosed in a CEQA environmental document) if the project could cause a substantial adverse change in the significance of a historical resource. “Substantial adverse change in the significance of an historical resource means physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired” (14 CCR 15064.5(b)(1)). Materially impaired means that the historical resource will be demolished or the physical characteristics of the resource that made the resource eligible will be adversely altered such that the resource would no longer be eligible for the CRHR nor listed in a local historical register (14 CCR 15064.5(b)(2)).

### 3.3 RANKING POTENTIAL IMPACTS TO CULTURAL RESOURCES BY ALTERNATIVE

At this Tier 1 programmatic level of analysis, individual archeological sites were not evaluated for eligibility. Instead, the archeological sites identified as a result of the records searches are assumed to be potentially eligible and the number of archeological sites identified in the study area for each alternative is used as one indicator of the relative degree of potential impacts on cultural resources for that alternative, should it be selected for construction. Numbers of archeological sites were then translated into qualitative rankings of low, medium, and high, as follows.

Low	0 to 20 sites
Medium	21 to 40 sites
High	41+ sites

In addition, the preparer’s knowledge of regional prehistory was used to supplement the records search results. For example, if it is known that numerous sites have been recorded along a particular river drainage, but the records search did not yield recorded sites along the river in the study area for a

particular alternative route, the preparer increased the number of sites expected for that route. If this was done, it is discussed under the applicable alternative in Section 4.

Specific structures from the historic period were not identified at this Tier 1 programmatic level of analysis. Instead, the percentage based on miles of each alternative route that passed through areas that originally developed in specific, predefined historical periods (before 1900, 1900 to 1929, and 1930 to 1958) was determined from historical maps and knowledge of the history of the region. The percentages were used as indicators of the potential for a particular alternative to impact or affect potentially eligible structures from the historical time periods. Percentages of route lengths that developed in various periods were then translated into qualitative rankings of low, medium, and high, as follows.

Traditional cultural properties were assessed on a presence/absence basis for each alternative route. If a traditional cultural property were present, it resulted in a "high" ranking for traditional cultural properties for that alternative route.

Low ranking is defined as ranging from no (0 percent) miles of route passing through historically developed areas to 10 percent and no passage through historic districts. Medium ranking ranges from 10 percent to 20 percent of the route passing through historically developed areas, or ranges from 0 percent to 20 percent with passage through historic districts. High ranking ranges from 20 percent and above of the route passing through historically developed areas (whether or not the route also passes through historic districts).

The low, medium, and high rankings for numbers of archeological sites, percentage of the route that developed in historical periods, and presence of traditional cultural properties were combined to produce an overall ranking of low, medium, or high potential to affect cultural resources for each alternative HST route. These rankings again were combined to provide a ranking of low, medium, or high potential to affect cultural resources for the No-Project and Modal Alternatives within the region and for the entire HST Alternative.

## 4.0 IMPACTS TO CULTURAL RESOURCES

### 4.1 NO-PROJECT ALTERNATIVE

The No-Project Alternative represents the state transportation system (highway, air, and conventional rail) as it existed in 1999 and 2000 and as it would be after implementation of programs or projects currently programmed for implementation and projects that are expected to be funded by 2020.

For the No-Project Alternative, there would be potential impacts from highway, rail, and airport improvements, but those impacts would be identified in environmental studies prepared for the No-Project projects. The difference in impacts between the No-Project and current conditions would be greater than the difference in impacts between either the Modal or HST Alternative compared to the No-Project Alternative.

### 4.2 MODAL ALTERNATIVE

The Union Station to March ARB segment of the Modal Alternative could affect 16 known/recorded archeological sites. No historic districts are present and there would be no direct takes of known resources. Approximately 19.5 miles of this 71-mile segment (27 percent) passes through historically developed areas suggesting that potential for impacts to the historic-built environment are high.

The March ARB to Mira Mesa segment of the Modal Alternative could affect 44 known/recorded archeological sites. One historic district could be affected and nine resources could be taken directly by construction. This segment does not pass through any historically developed areas along its 118-mile length, and the potential for impacts to the historic-built environment is medium.

The Mira Mesa to San Diego segment could affect 24 known/recorded archeological sites. No historic districts are present and six resources could be taken directly by construction. Approximately 3 miles (21 percent) of the 14-mile segment passes through historically developed areas suggesting medium potential for impacts to the historic-built environment.

### 4.3 HIGH-SPEED TRAIN ALTERNATIVE

Comparison of HST Alternative alignments and segments is fraught with uncertainty. First, there is no consistency among alignments and segments in terms of professional archeological survey coverage (some areas received more coverage than others). The alignments and segments also vary in length. Even if coverage were somehow uniform amongst the alignments and segments, the fact that alignments and segments vary with respect to their passage through developed versus undeveloped areas greatly affects the numbers of archeological sites that could be detected and reported to CHRIS offices.

In general terms, Segment 1 passes through fairly urbanized areas (with less urbanization towards March ARB) and archeological survey coverage is uneven. With the above caveats in mind, the data show that Segment 1A could affect 23 archeological resources; Segment 1B only 3 resources, and Segment 1C could affect 14 archeological resources.

From March ARB to Mira Mesa, Segment 2 passes through less developed or rural/semirural regions where archeological site survival is greater than what would be expected in urban areas. Archeological survey coverage, in general, is more plentiful in Segment 2 due to the combination of post-1970 CEQA and NEPA regulatory oversight having greatest effect in areas urbanizing after the early 1970s (e.g., the explosive growth in the Inland Empire over the past 25 years). With the above caveats in mind, Segment 2A could affect 62 archeological resources and Segment 2B could affect 7 resources.

From Mira Mesa to downtown San Diego, Segment 3 passes through both semirural areas and rapidly urbanizing areas surrounding the San Diego metropolitan area. San Diego County has also been known to be one of the most compliant with CEQA in the years after its passage and one of the more history-conscious areas in California, resulting in relatively higher levels of professional and university/college-sponsored archeological survey. Within Segment 3, alternative Segment 3A could affect 5 archeological resources, 3B could affect 47 resources and 3C only 3 resources.

The combination of segments and alternatives that would have the greatest impact on cultural resources is 1A1, 1A2, 1C1, 1A4, 2A1, 2A2, 2A3, 3C1, and 3B2. A combination that would produce somewhat lower impacts is 1A1, 1A2, 1C1, 1A4, 2A1, 2A2, 2A3, 3B1, and 3B2. A combination that would produce the fewest impacts is 1B1, 1A2, 1A3, 1A4, 2A1, 2B1, 2A3 and 3A1.

## 5.0 REFERENCES

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